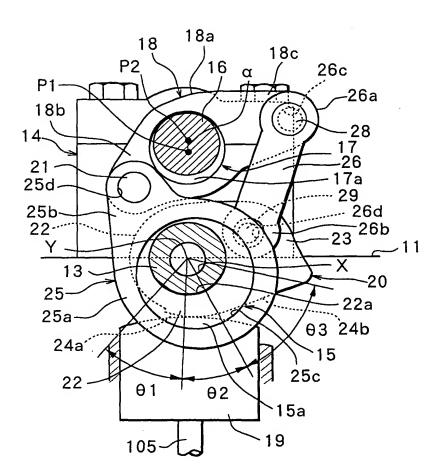
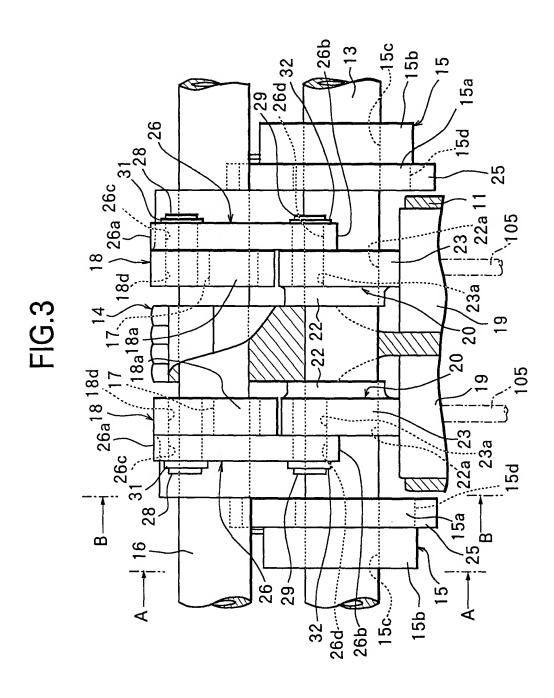


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# FIG.2





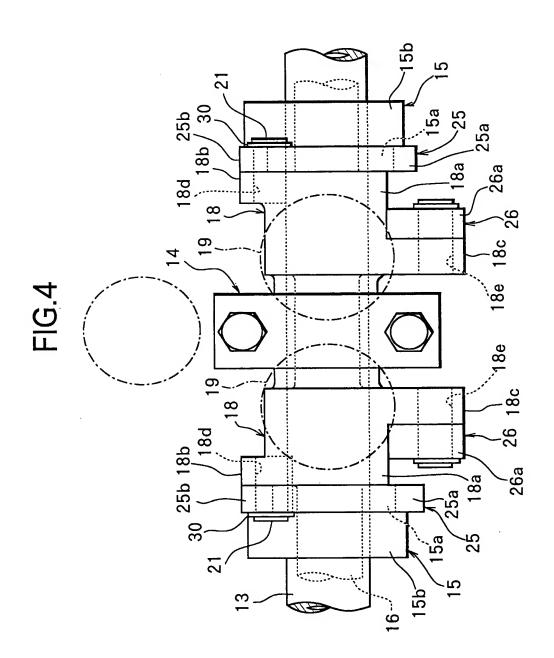
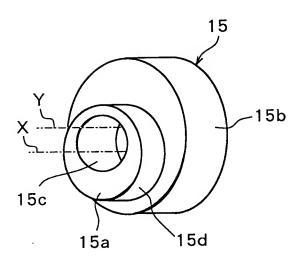
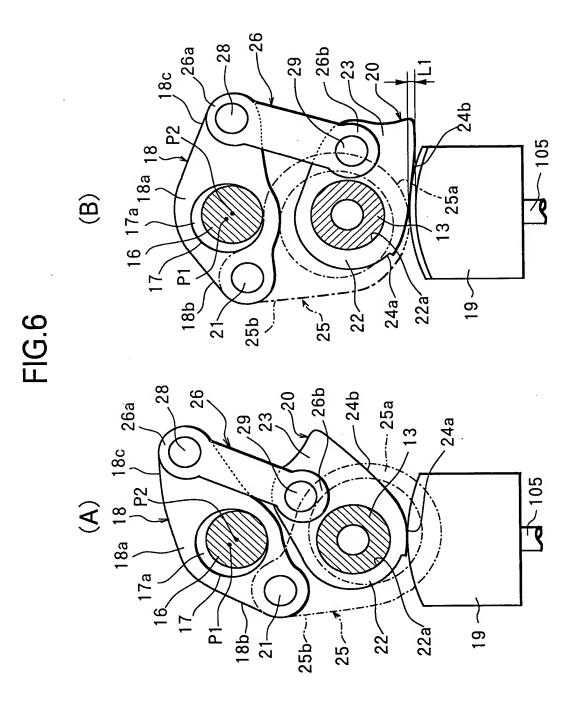
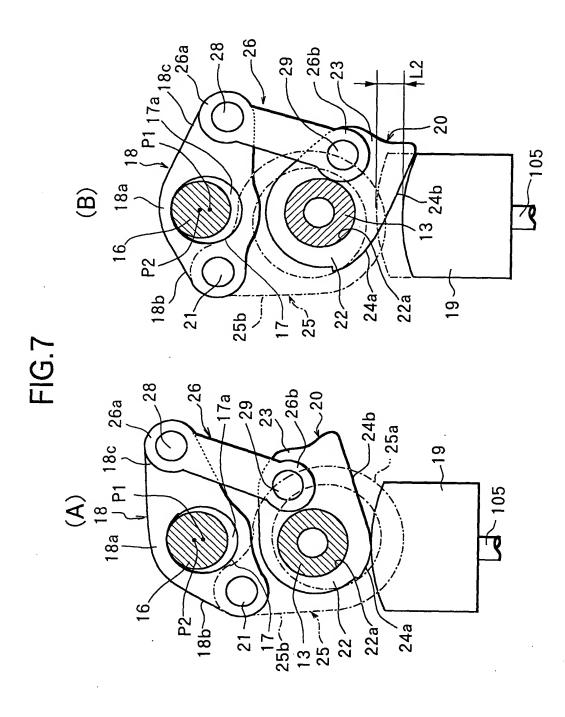


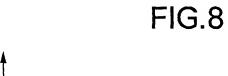
FIG.5







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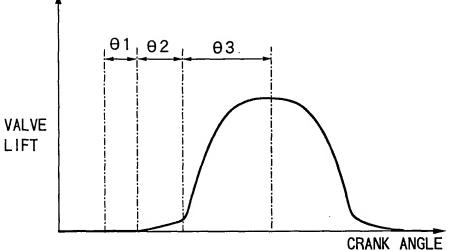
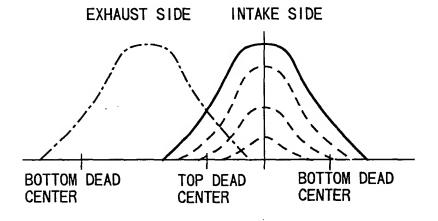
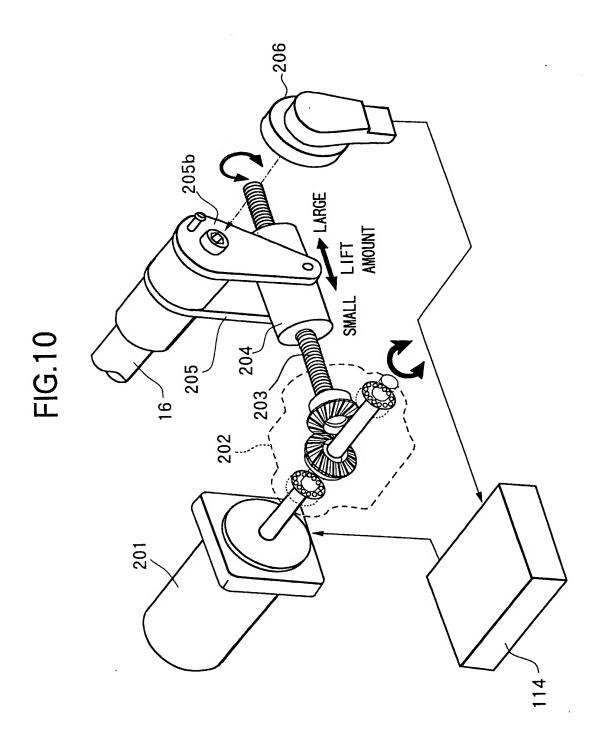


FIG.9





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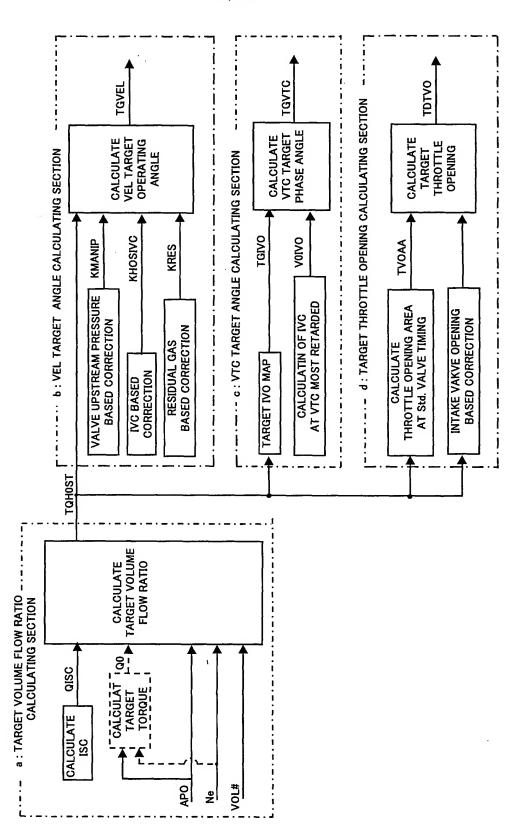


FIG. 1



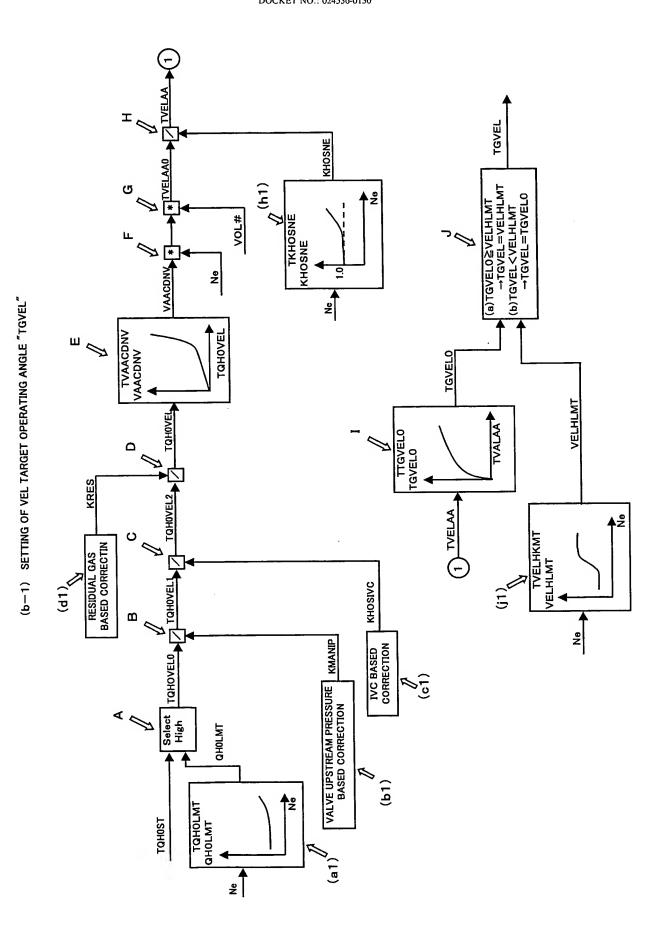
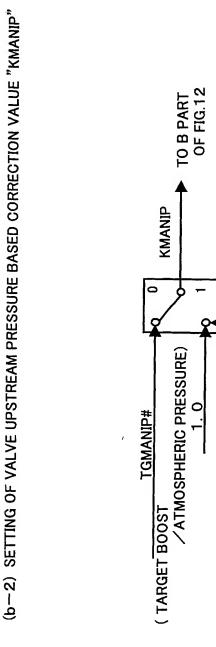


FIG.13



(TQH0ST≦QH0LMT)

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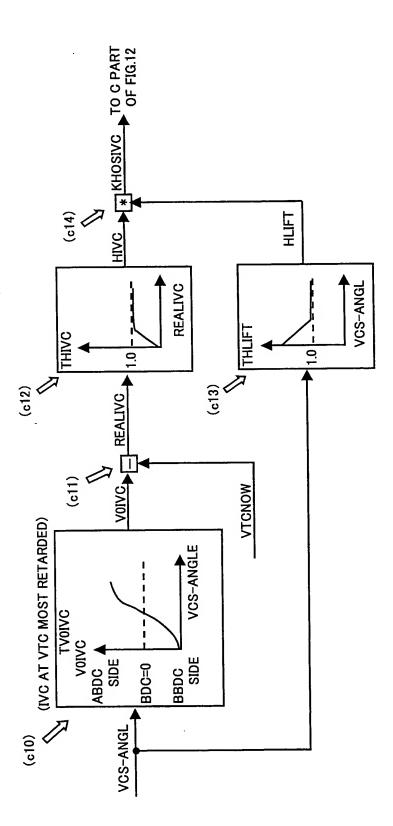
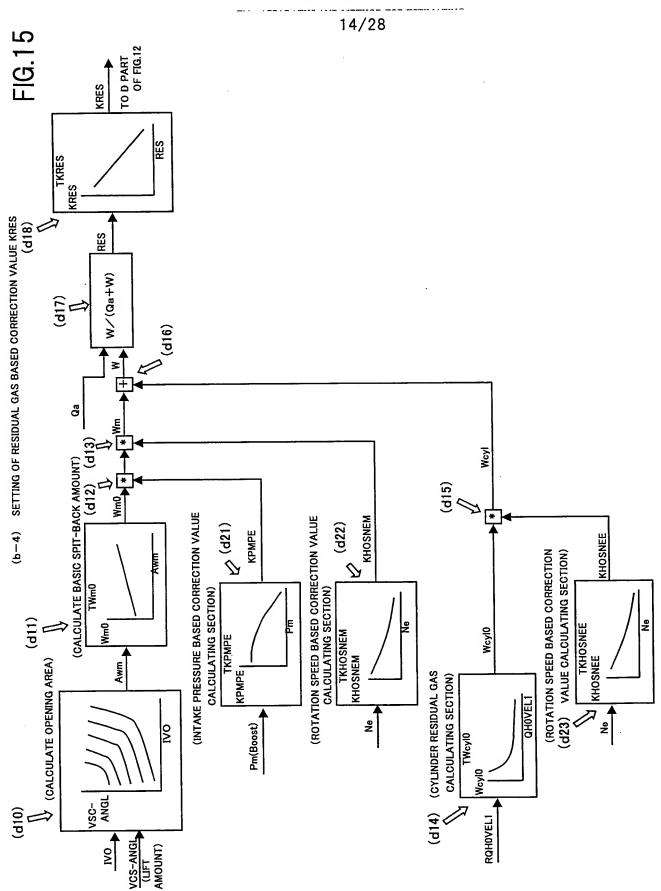


FIG.14

(b-3) CALCULATION OF VALVE TIMING BASED CORRECTION VALUE "KHOSIVC"



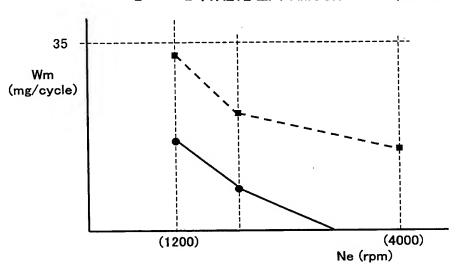
RESIDUAL GAS AMOUNT OF INTERNAL
COMBUSTION ENGINE, AND APPARATUS AND
METHOD FOR CONTROLLING INTAKE AIR
AMOUNT OF INTERNAL COMBUSTION ENGINE
USING ESTIMATED RESIDUAL GAS AMOUNT
Inventor(s): Is:..'u IIZ'KA et al.
DOCKET NO.: 024536-0130

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FIG.16

# CHANGE IN SPIT-BACK GAS AMOUNT Wm DUE TO ROTATION SPEED Ne

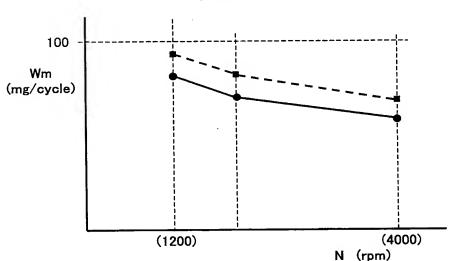




**FIG.17** 

## CHANGE IN BASIC RESIDUAL GAS AMOUNT Woyl DUE TO ROTATION SPEED Ne

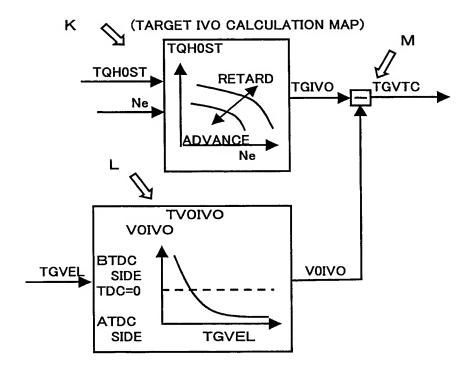
:VALVE LIFT AMOUNT-LOW(ex. 0.65mm)
---- :VALVE LIFT AMOUNT-HIGH(ex. 2.2mm)



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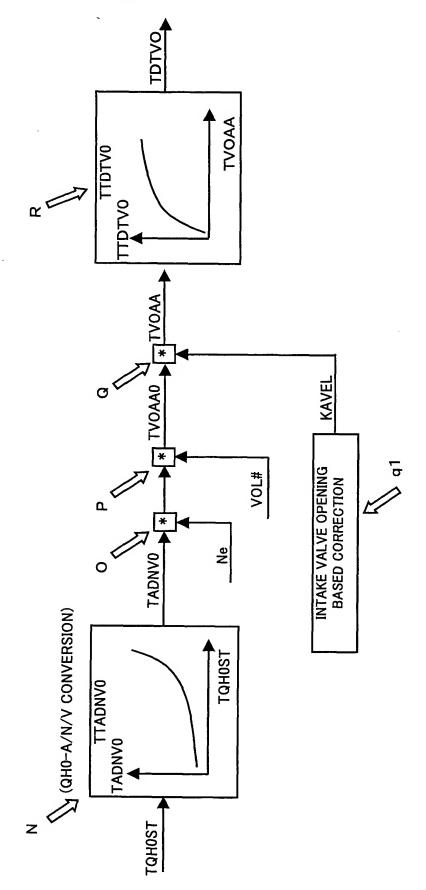
## **FIG.18**

### (c) SETTING OF VTC TARGET (PHASE) ANGLE "TGVTC"



(d-1) SETTING OF TARGET THROTTLE OPENING "TDTVO"

Title. APPARATUS AND METHOD FUK ESTIMATING RESIDUAL GAS AMOUNT OF INTERNAL COMBUSTION ENGINE, AND APPARATUS AND METHOD FOR CONTROLLING INTAKE AIR AMOUNT OF INTERNAL COMBUSTION ENGINE USING ESTIMATED RESIDUAL GAS AMOUNT Inventor(s): Isamu IIZUKA et al. DOCKET NO.: 024536-0130



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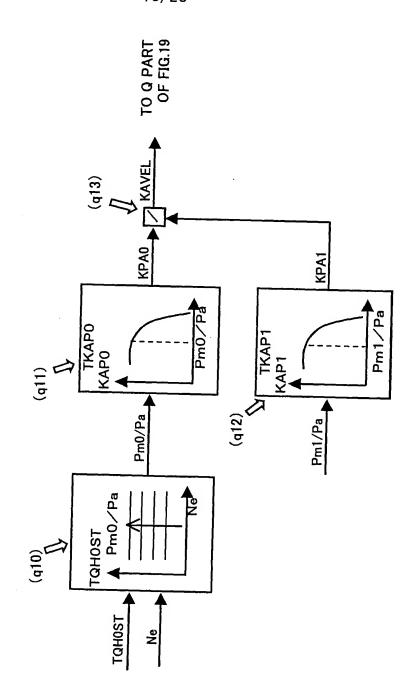


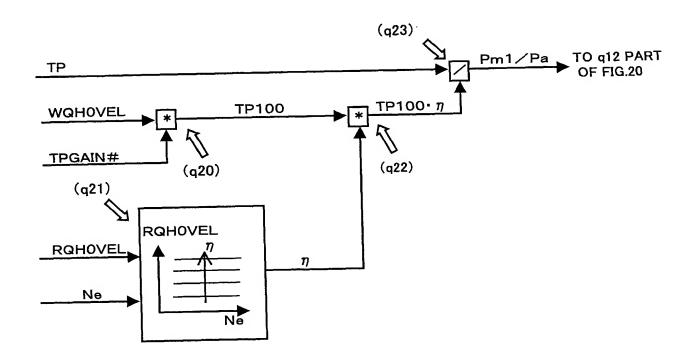
FIG.20

(d-2) CALCULATION OF INTAKE VALVE OPENING BASED CORRECTION VALUE "KAVEL"

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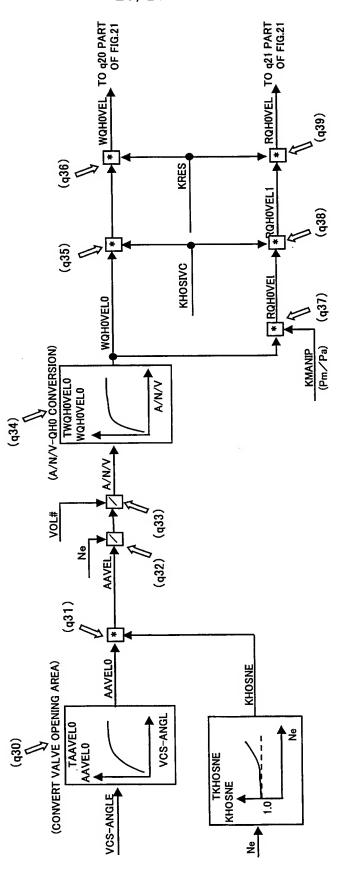
### FIG.21

# (d-3) CALCURATION OF PRESSURE RATIO(Pm1/Pa) AT THE TIME WHEN VEL OPERATES



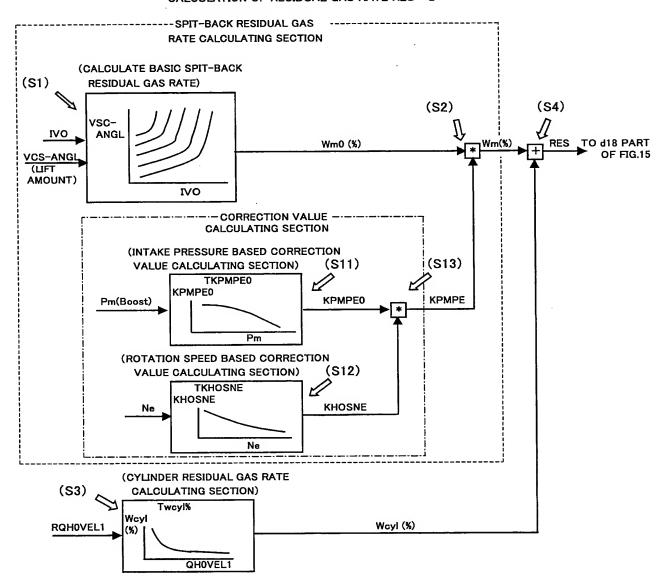
(4-4) CALCULATION OF RATIO "WQH0VEL", "RQH0VEL" OF VOLUME FLOW PASSED THROUGH INTAKE VALVE

Title: APPARATUS AND METHOD FOR ESTIMATING
RESIDUAL GAS AMOUNT OF INTERNAL
COMBUSTION ENGINE, AND APPARATUS AND
METHOD FOR CONTROLLING INTAKE AIR
AMOUNT OF INTERNAL COMBUSTION ENGINE
USING ESTIMATED RESIDUAL GAS AMOUNT
Inventor(s): Isamu IIZUKA et al.
DOCKET NO.: 024536-0130



### **FIG.23**

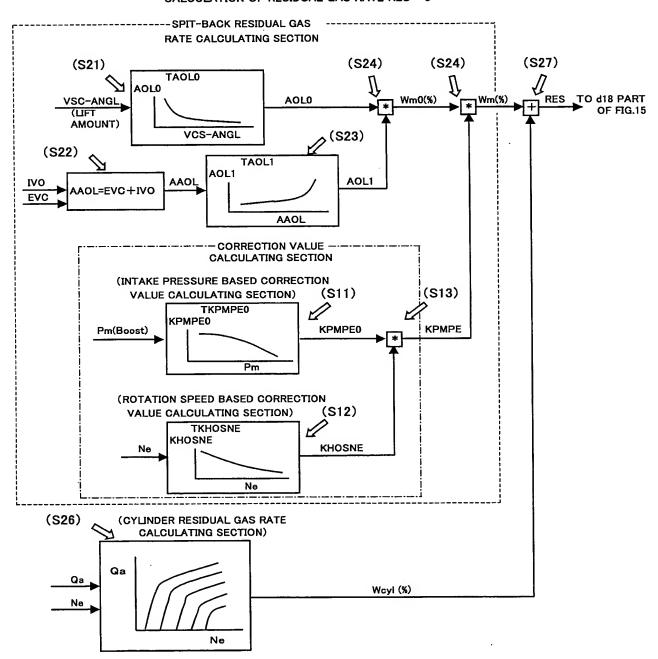
#### CALCULATION OF RESIDUAL GAS RATE RES - 2



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FIG.24

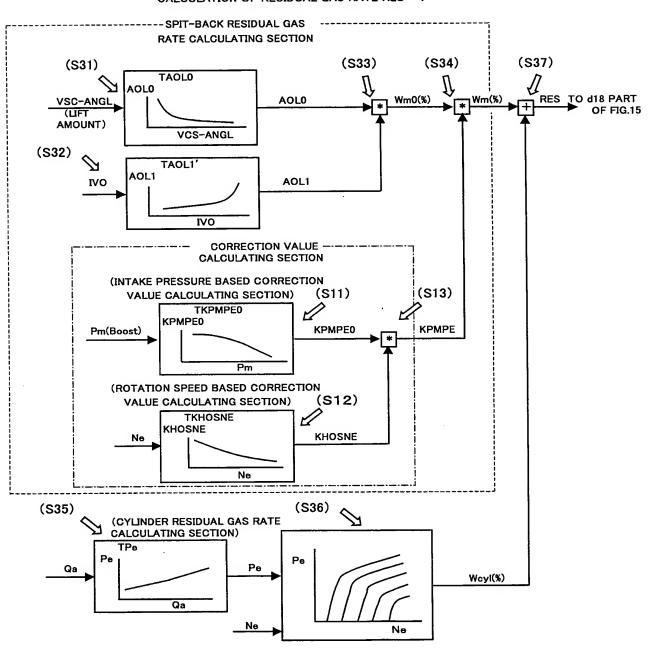
#### CALCULATION OF RESIDUAL GAS RATE RES - 3

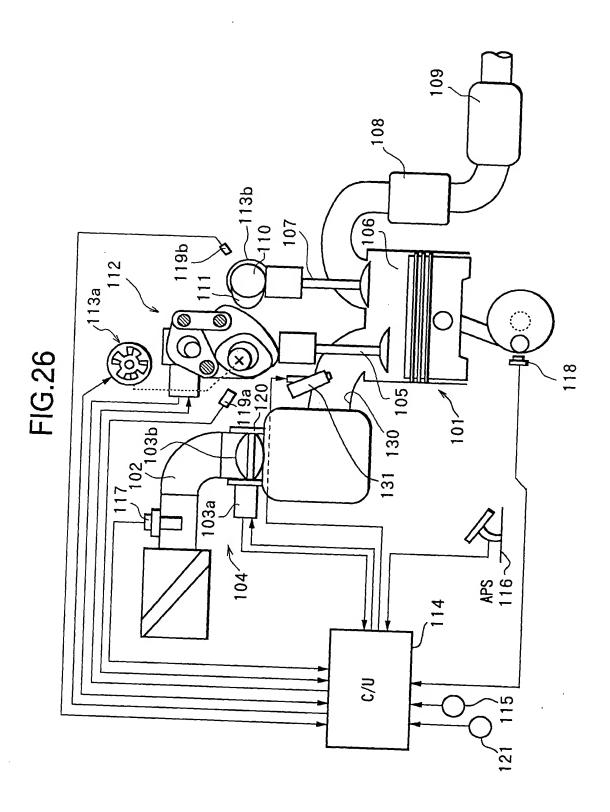


- · ~ Z3/Z8

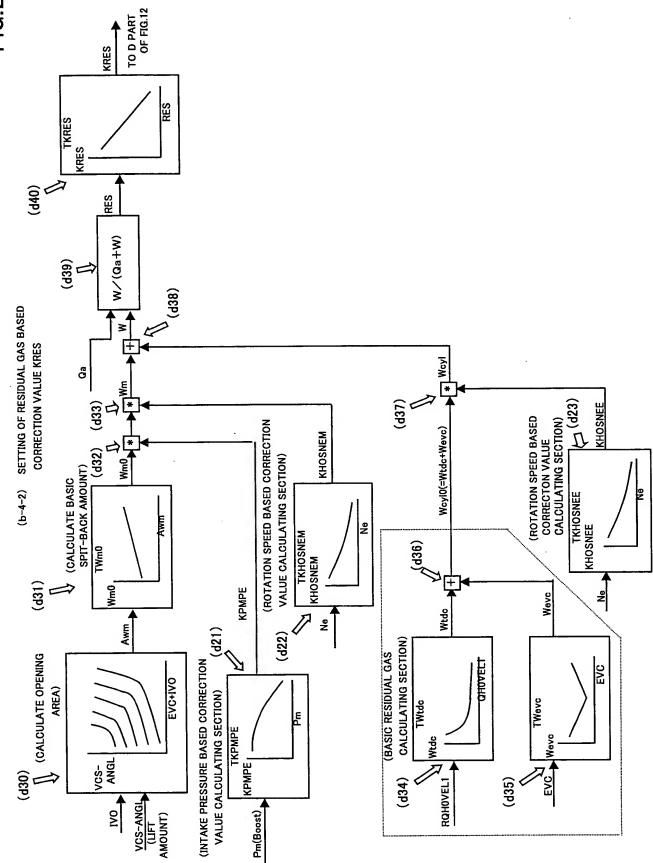
### FIG.25

#### CALCULATION OF RESIDUAL GAS RATE RES - 4





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# FIG.28

#### (c) SETTING OF VTC TARGET OPERATING ANGLE

